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Soviet Civil Defense: Objectives, Pace, and Effectiveness

**Interagency Intelligence Memorandum
Memorandum to Holders**

Key Judgments and Summary

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*NI IIM 86-10004
February 1986*

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NI IIM 86-10004

MEMORANDUM TO HOLDERS OF
NI IIM 77-029J

SOVIET CIVIL DEFENSE:
OBJECTIVES, PACE,
AND EFFECTIVENESS

KEY JUDGMENTS AND SUMMARY

Information available as of 15 December 1985 was used in the preparation of this Memorandum, which was approved for publication on 31 December 1985. The full text of this Memorandum is being published separately with regular distribution.

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PREFACE

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The 1977 Interagency Intelligence Memorandum on Soviet civil defense planning remains in many respects the major comprehensive study on the subject.¹ However, important sections of that paper have been superseded by the 1981 Memorandum to Holders and a 1983 IIM, and analyses undertaken by the intelligence agencies individually have shed light on additional aspects of the program.²

This document incorporates Intelligence Community findings since 1981 and new data on sheltering, evacuation, and effectiveness. Although not as comprehensive in scope as the 1977 IIM, it addresses those issues that we believe to be central to an evaluation of the program's short-term effectiveness. We do not attempt to assess Soviet prospects for medium- or long-term recovery after a nuclear attack because of the uncertainties surrounding the climatic and biological effects of a massive nuclear exchange. In addition, in-depth analyses would be highly scenario dependent. We have, however, identified those areas known to us that we believe would have an impact on the Soviets' capability for continuing operations in the period shortly after a nuclear attack.

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This Memorandum to Holders was prepared under the auspices of the National Intelligence Officer for Strategic Programs. It was drafted by the Central Intelligence Agency with the participation of the Defense Intelligence Agency. Contributions to various portions of the study were also made by elements of the US Air Force, the National Security Agency. The Joint Data Systems Support Center, Defense Communications Agency, provided extensive computer support for the measures-of-effectiveness study, while statistical support for the evacuation and shelter studies was provided by CIA's Analytic Support Group. This Memorandum was coordinated by the NIO/SP's Interagency Working Group on Civil Defense.

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¹ See *Soviet Civil Defense: Objectives, Pace, and Effectiveness*, NI IIM 77-029J (TS Codeword), December 1977, or NI IIM 77-029 (S NF), December 1977.

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² See Memorandum to Holders of *Soviet Civil Defense: Objectives, Pace, and Effectiveness*, NI IIM 81-10001J (TS Codeword), January 1981, or NI IIM 81-10001D (S NF), July 1981; and *Soviet Wartime Management: The Role of Civil Defense in Leadership Continuity*, NI IIM 83-10005JX (TS Codeword), December 1983.

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KEY JUDGMENTS

Civil defense is an integral part of the Soviets' strategic posture. The Soviets see their program as providing them with an advantage over the United States, but during a crisis period their judgments about their freedom of action and recourse to hostilities would be based on many military, political, and other factors beyond just a significant civil defense asymmetry. They probably have many uncertainties about their capability to implement their civil defense plans, as well as about the impact of longer term nuclear effects. Nonetheless, continued investment in civil defense over a 35-year period has resulted in a program that—in the Soviets' view—is perceived as credible and is a contributing element of their strategic posture. According to an alternative view, there is no indication that the Soviets believe their civil defense program makes any but a marginal contribution to the USSR's overall strength relative to that of the United States, or that it could produce a satisfactory outcome in such a war.³

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Although current civil defense capabilities are not uniformly comprehensive, the Soviets to date have achieved a level of competence that permits them to focus selectively on weaknesses in the system. A period of maintenance and stable growth appears to have succeeded the intensive development of the late 1960s through mid-1970s, and there have been no discernible changes of emphasis in the program over the past several years. Spending on the four elements of the program for which we can estimate costs remains steady at about 470 million rubles per year, or \$4.5 billion if duplicated in the United States. (These figures should be viewed as minimum estimates only, inasmuch as many aspects of the program are not included.)

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The Soviets have made considerable progress in almost all areas of civil defense over the last 15 years. In particular, they have made great strides in their efforts to implement plans for the protection of the leadership and essential workers during wartime. Recent analysis suggests that, in addition to an extensive command post network outside of urban areas, the Soviets have a more extensive urban command post network than we previously suspected. In Moscow, where the need for leadership protection is the greatest, the Soviets over the last 35 years

³ The holder of this view is the Director, Bureau of Intelligence and Research, Department of State

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have constructed an enormous system of urban deep underground complexes, interconnected by public and special subway lines and

[redacted] as well as deep underground complexes

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[redacted] Deep underground facilities connected to public subways have also been identified in several other major cities. There are indications, moreover, that the Soviets' capacity for underground production may be greater than we have estimated in the past—although the extent of such efforts remains unclear. [redacted]

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We have identified other areas, however, that the Soviets apparently perceive as needing improvement. They experimented with a major reorganization of civil defense in the late 1970s and early 1980s. On the basis of statements made by Marshal Ogarkov, as Chief of the General Staff in the early 1980s, we judge that the move was partly intended to address problems in coordinating military, economic, and civil defense mobilization requirements. We do not know the outcome of the reorganization attempt. [redacted]

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The ultimate effectiveness of the Soviet civil defense program is highly scenario dependent. Our analysis shows that, if in the course of an ongoing crisis or conflict, the Soviets mobilize early enough to implement fully their civil defense plans and deliver a first strike against the United States, the program could greatly minimize the casualties attributable to prompt nuclear effects among all segments of the population. Immediate casualties could range from at least 162 million with little or no civil defense to at least 30 million with full sheltering and evacuation. Although civil defense could protect some key economic assets, the Soviets almost certainly believe it cannot prevent major damage to their economy. [redacted]

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SUMMARY

Driven by the perception that war-fighting capabilities mean little without the capability for war survival, the Soviets have contended for over 35 years with the problems of providing civil defense against weapons of modern warfare. The scope of their effort exceeds that inferred by the interpretation of the term "civil defense" in the West. Soviet civil defense is intended to contribute to the maintenance of a functioning logistic base for operations by combat forces, to limit human and material losses, and to attempt to ensure that the essential political and socioeconomic basis for Soviet society is preserved in the postattack period. []

The Soviets' current civil defense posture is the product of an ongoing effort to balance these doctrinal requirements with the complexity, cost, and uncertainties inherent in preparing for nuclear war. Consequently, current capabilities are not uniformly comprehensive. The Soviets have made considerable progress in almost all aspects of the program over the past 15 years, however, and as a result they view the program as credible and as one that provides them with an advantage over the United States. According to an alternative view, there is no indication that the Soviets believe their civil defense program makes any but a marginal contribution to the USSR's overall strength relative to that of the United States, or that it could produce a satisfactory outcome in such a war.⁴ []

Concept and Objectives

Civil defense is an integral part of the Soviets' strategic posture. Like other military programs, it is designed to support Soviet military doctrine and strategy. The stated objectives of the program are to:

- Protect the population (the leadership, essential work force, and general population, in that order of priority).
- Maintain continuity of economic activity in wartime.
- Liquidate the consequences of an enemy attack.

⁴ The holder of this view is the Director, Bureau of Intelligence and Research, Department of State. []

These objectives have been consistent over time and appear to reflect actual Soviet policy (see table 1). []

Organization and Manning

Subordinate to the Ministry of Defense (MOD) since 1971, civil defense has a status within the military similar to that of other nonforce branches. The chief of USSR Civil Defense, General of the Army A. T. Altunin, is a deputy minister of defense. The General Staff coordinates civil defense activities with the rest of the armed forces, and closely follows civil defense mobilization plans through the Organization and Mobilization Main Directorate. []

Civil defense is administered nationwide on a territorial-industrial basis, with civil defense staffs present at all territorial-administrative and economic-functional levels. We estimate there are approximately 150,000 full-time civil defense personnel. Operational control of civil defense rests with the military; in wartime, the territorial civil defense chain of command would be subordinate to the deputy commander for civil defense of each military district (MD). []

The operating elements of the program consist of 59 military civil defense units manned by 34,000 troops in peacetime (105,000 in wartime) and an unknown number of civilian civil defense formations that probably involve over 25 million participants. The quality of the civilian formations varies considerably, since much of the population apparently does not take civil defense training seriously. This deficiency appears to concern the leadership; in 1984 Altunin approved regulations tightening training standards for the civilian formations []

Two distinct—though related—goals may have been factors in the proposed reorganization. Other []

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Table 1
Objectives and Tasks
of Soviet Civil Defense

Objectives	Tasks
Protect the population	Protect the leadership
	Urban command posts
	Exurban relocation sites
	Redundant communications systems
	Protect the essential work force
	Shelters at essential worksites
	Dispersal plans
	Relocation plans
	Protect the general population
	Shelters (urban and rural, blast and fallout)
	Evacuation plans
	Individual protective gear
Maintain continuity of economic activity in wartime	Coordinate civil defense and economic mobilization plans
	Protect essential economic personnel
	Urban and exurban command posts for the economic leadership
	Sheltering, dispersal, and relocation of essential workers
	Ensure stable supply of raw materials and utility inputs
	Buried utility lines
	Redundant sources of supply
	Strategic reserves
	Protect individual pieces of machinery and equipment (limited implementation)
	Hasty hardening
	Rapid shutdown
	Prevention of secondary damage
	Protect entire installations
	Geographic dispersal (limited implementation)
	Underground production facilities
	Relocation
Enhance prospects for postattack recovery	Maintain military civil defense units
	Organize civilian civil defense formations
	Maintain medical reserves
	Maintain food reserves
	Provide training in rescue and recovery operations

military reorganizations of the same period were aimed at aligning the peacetime force structure more closely with wartime operational plans. One effect of these changes was to consolidate the MD commander's authority over forces in his area. A similar outcome could have been expected if the civil defense experiment were successful, and would have followed the trend established by the MOD takeover of civil defense in 1971.

It is also possible that serious concerns over the Soviets' mobilization capabilities prompted the move. Marshal Ogarkov, while Chief of the General Staff, expressed concern in the early 1980s over the nation's ability to coordinate all aspects of mobilization—military, economic, and civil defense.

Costs

We are unable to estimate the total cost of civil defense preparations in the USSR. We have assessed the annual cost of four elements of the program: pay and allowances for full-time personnel, the operation of the military civil defense units, construction and maintenance of facilities for these units, and urban blast shelter construction. The cost of these elements in 1984 amounted to about 470 million rubles, the equivalent of about 7 percent of the estimated cost for Soviet strategic defensive forces, or less than 1 percent of the estimated total defense budget. If duplicated in the United States, they would have cost about \$4.5 billion in 1984, with about 77 percent representing manpower costs. (These estimates should be considered very rough approximations because of uncertainties in both the quantitative data on civil defense programs and price estimates.) We emphasize that these figures represent the cost of only part of the program and should be viewed as minimum estimates.

Attitudes

Available evidence suggests that the leadership takes the civil defense program seriously. Despite the prevalence of statements to Western officials that play down the extent and significance of the program, domestic literature continually emphasizes the importance of general preparedness and of training activity. Continued investment and activity in an era of budget constraints also support this view. The average Soviet

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citizen, however, apparently continues to be apathetic toward the program, paying little attention to civil defense lectures and regarding exercises as more of an opportunity for socializing than for training. Although this reduces the benefits of training and could diminish the effectiveness of the civilian civil defense formations, we believe it has very little impact on the rest of the program. The majority of Soviet citizens probably would obey orders under most crisis scenarios. Moreover, the general disinterest of Soviet citizenry in civil defense does not indicate a lack of purpose on the part of the leadership. []

Level and Direction of Activity

It is difficult for us to measure the pace of the program. Few areas are quantifiable, and our current reporting is limited. Some areas such as shelter construction and military civil defense unit activity showed a marked increase in emphasis in the late 1960s and early 1970s, but appear to have leveled off since the mid-1970s. We judge that the enduring and cumulative nature of many aspects of the program has allowed the Soviets to increase their civil defense capability while maintaining a steady pace of effort. []

The Soviets have achieved a level of competence that permits them to focus selectively on weaknesses in the system. A period of maintenance and stable growth appears to have succeeded the intensive development that characterized the period from the late 1960s through the mid-1970s. Although many problems remain to be resolved, we believe the Soviets have surpassed the minimum level of achievement necessary to impart confidence in the program's viability. []

With many of the basic requirements for civil defense apparently fulfilled and evidencing only a maintenance level of effort, the Soviets probably view the 1980s as a time to address less tangible problem areas. We have detected a few new areas of emphasis over the past several years. These include:

- Mobilization capabilities.
- Rural civil defense formations.
- Allies' civil defense programs.

In general, we have been unable to discern any civil defense initiatives in response to the deterioration in US-Soviet relations since 1980. The lack of evidence to that effect could be due to limited current reporting, however. []

Protection of the Leadership

A primary objective of the Soviets' civil defense program is to protect and support the leadership from the time they begin the transition to a wartime footing to the early postattack period. We estimate that there are approximately 179,000 officials the Soviets most want to protect, including political and economic leaders at all levels and some civil defense personnel. All key leadership components probably are assigned both urban and exurban command posts. The functions of the component determine the number of its primary and alternate command posts, their size, and the degree of protection they offer against nuclear effects, as well as the communications equipment, transport, and other support provided. At the highest levels of the national leadership and throughout the armed forces, mobile command posts and related communications facilities also are used, although they are not usually available to subordinate territorial-administrative and ministerial organizations. The present war management structure relies primarily on fixed command posts and probably will continue to do so; we doubt the Soviets could carry out their wartime management plans effectively using only mobile command posts. []

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The Soviets would try to relocate most of their leadership to exurban sites in wartime. We estimate the total number of exurban facilities supporting the Soviet wartime apparatus to be over 1,000. Of this number, we assess about 275 as being vital to supporting Soviet war-fighting operations. These belong to the National Command Authority (NCA), national government, ministries directing war-supporting sectors of the economy, military districts, republics, and the 56 most important oblasts.⁵ []

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⁵ Military service headquarters, main command posts, and theater command, control, and communications facilities are not included. []

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The vulnerability of identified facilities varies. Some of the urban and exurban relocation sites are located deep underground

examined in detail for this report: sheltering, evacuation, and medical support. Protection of the urban population does not receive the priority accorded to protecting essential personnel, but is nonetheless an established objective. [REDACTED]

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We estimate the Soviets could shelter approximately 11.2 percent of the urban population in 1984.⁶ Shelter capacity is higher in larger cities than in smaller cities; our estimates show cities with more than 1 million people could shelter 16.9 percent, those with 100,000 to 1 million people 9.3 percent, and those with 25,000 to 100,000 people 8.4 percent. Most of the shelters identified were at places of work. [REDACTED]

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Comparison of information on shelters constructed after 1978 with those constructed before suggests that shelter capacity is exceeding population growth only slightly, and that the rate of progress will soon level off if current rates continue. We estimate the Soviets will be able to protect 11.5 percent of their urban population by 1994. Shelter construction at residential sites has declined, with much of the slack taken by construction at institutes. The newer shelters also appear to be smaller [REDACTED]

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Subway systems probably provide additional sheltering capacity. Although we do not know the extent to which the public systems would be used for shelter, we have estimated the potential shelter capacity of currently operating systems. We estimate the operating underground stations could shelter almost 600,000 people, or more than 2 percent of the population in the cities with operating subway systems. If both operating tunnels and stations were used, they could shelter approximately 3.6 million people, or 14.5 percent of the population in those cities. Even if tunnels were used, however, this latter figure represents a maximum that is unlikely to be approached, since not all sections of the subways would be suitable for shelter. [REDACTED]

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The Soviets will have to rely on evacuation to protect the bulk of the population. As many as 331 cities might be evacuated in wartime, involving some 92 million people, or 88 percent of the population of the cities. We believe the percentage of people to be evacuated would vary according to city size since relative urban shelter capacity increases with the size of the city. [REDACTED]

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The complications associated with mass evacuation under the best of circumstances could be exacerbated by factors such as inadequate strategic warning, transportation shortages, and adverse weather conditions.

Protection of the Urban Population

Soviet plans to protect the urban population encompass a wide range of measures, three of which were

⁶ We define urban areas as all towns with populations of 25,000 or more. [REDACTED]

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Although these problems must be obvious to the Soviets, we do not believe the Soviet commitment to evacuation efforts is diminished as a result. []

The available evidence indicates that the Soviets have taken extensive measures to provide medical support for the population in the postattack period. These measures include:

- Mobilization plans for medical personnel and facilities.
- Special civil defense training for all medical personnel.
- Provision for emergency medical supplies and transportation.
- Preparation for sanitation and epidemic management teams to control disease.
- Plans for medical evacuation of casualties from urban areas to relocated hospitals.
- Construction of underground medical facilities.
- Shelter for medical personnel. []

The Soviets probably have significant uncertainties about the ability of the Civil Defense Medical Service to perform its wartime mission. Compounding the problems presented by the number of casualties that would result from a nuclear war may be factors such as:

- Availability of appropriate medical supplies and equipment, despite stockpiling.
- Availability of qualified medical personnel.
- Problems with sanitary-epidemiology operations demonstrated during peacetime crises.

Nevertheless, the peacetime preparations in effect could enhance prospects for reducing casualties should war occur. []

Protection of the Economy

The array of measures discussed in Soviet literature for protecting the range of economic assets is shown in table 1. Our review of the evidence []

[] suggests that the emphasis the Soviets have placed on each of these areas varies. []

In practice, Soviet efforts to protect the economy appear selective rather than comprehensive and focus on key elements of the economic infrastructure essential to war support and recovery. The Soviets have been unable to implement all of the measures dis-

cussed in civil defense literature. They have made considerable progress in preparing to protect essential workers and economic managers, and have had some success in developing protective measures for the following major industries: defense, machine building, chemicals, metals, energy, transportation, construction, and communications. They also have well-developed plans for defining the wartime posture—evacuated, dispersed, or relocated—of all types of economic installations. A significant number of installations would probably attempt to continue operations in wartime for as long as possible, either through relocation or dispersal measures. []

Of particular interest to us is the growing body of evidence suggesting that underground production facilities may play a greater role in plans for continuing economic activity than previously recognized. []

The Soviets have experienced difficulties in preparing the peacetime economy for the transition to a wartime footing, despite the extensive organizational mechanisms to facilitate the process. The magnitude of the task confronting the bureaucracy—which experiences difficulties in peacetime planning—suggests these problems will not be resolved easily. []

Previous analyses have concluded that the Soviets would not attempt to implement preattack measures such as evacuation or relocation unless convinced of a high probability of nuclear attack; they probably would wish to avoid economic disruption as well as the possibility of triggering a US preemptive strike. Nonetheless, the Soviets might try to carry out some measures incrementally to ease the strain of mass evacuation. Some aspects of evacuation also could be carried out covertly, to buy additional time. (For example, children could be evacuated under the pretext that they were being transported to summer camp.) Successful implementation of these plans could provide some protection for key assets and would contribute to Soviet capabilities for protracted conflict and postattack recovery. []

⁷ See NI IIM 85-10013, *Soviet Planning and Capability for Protracted Nuclear War* (C), February 1986 (TS Codeword NF NC OC). []

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Effectiveness

We have updated our findings on the effectiveness of Soviet civil defense in reducing casualties from a large-scale retaliatory US nuclear strike. Estimated casualties resulted from prompt blast and radiation effects and from fallout during some six weeks following the attack. (We did not assess the impact on ultimate casualty levels of other factors, such as secondary damage, food shortages, or the spread of disease.) Our reassessment took into account new information on targeting strategy, population size, shelter capacity, and evacuation planning. We also incorporated into our model new features that provide a more accurate assessment of the effectiveness of Soviet plans to protect the leadership, essential work force, and economic installations, as well as an estimate of the extent to which antiballistic missiles (ABMs) would contribute to reducing population casualties.

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target intelligence base and the modernization of US forces will offset many of the Soviets' gains in these areas as well. [REDACTED]

Trends and Implications

Over a 10-year period of changing budget priorities and cooling East-West relations, the Soviets have maintained a consistent level of effort in those aspects of civil defense reviewed for this document. This contributes to our judgment that civil defense holds a relatively constant priority in Soviet planning and is viewed as a significant part of plans for homeland defense. The Soviets apparently recognize there is a margin of diminishing returns for each ruble invested in the program, and probably have chosen what they consider to be an economically realistic level of effort that still provides key peacetime and wartime benefits.

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We judge that the Soviets' civil defense program weighs significantly in their perception of the strategic balance.⁹ Soviet doctrine explicitly recognizes the program's contribution to both war-fighting and war-survival capabilities. Soviet leaders, however, cannot be certain of the degree of protection civil defense would afford, at present or in the early 1990s. Our analysis of their civil defense plans and activities suggests the Soviets are not likely to be any more confident now than we assessed them to be in 1981 that they can carry out the full range of civil defense measures planned for the population and the economy. Moreover, although we have not detected any change in emphasis on their civil defense program in the aftermath of Soviet scientific speculation about the likelihood of a nuclear winter resulting from a major nuclear exchange, it must compound the uncertainties about prospects for postattack recovery. [REDACTED]

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Full implementation of civil defense preparations would greatly reduce immediate population losses and could prevent damage to a limited number of economic assets. The most critical decision to be made by Soviet leaders in terms of saving their population is whether to evacuate. (S NF)

Soviet civil defense will require continued attention and investment in the next decade. We anticipate that casualty levels among the general population would be higher in 1992 than in 1984, in both absolute levels and in percent of the total population, with limited gains from increased shelter capacity more than offset by population growth and improvements to US forces [REDACTED]

We have no specific evidence for the improvements the Soviets have scheduled for their programs to protect key leadership, work force, and economic assets, but expect that expansion of our [REDACTED]

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We do not expect to see a major shift in the Soviets' emphasis on the program—either increased or decreased—barring a dramatic change in one of the superpowers' strategic capabilities and doctrine. The Soviets probably will maintain a fairly constant rate of investment in civil defense to consolidate the gains already attained, with attention to improving the efficiency and effectiveness of existing assets. We expect the Soviets to:

- Continue blast shelter construction at roughly current rates, with emphasis on shelters for essential personnel.

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- Improve maintenance of existing shelters.

⁹ For an alternative view, see page 5 [REDACTED]

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- Incorporate civil defense features into new subway construction.
- Construct additional but relatively limited numbers of new command posts as new requirements are generated.
- Continue to upgrade existing command post facilities and equipment.
- Maintain constant levels of military civil defense unit activity.
- Take additional steps to integrate civil defense into the military, including increasing cooperation with the military commissariats if the reorganization did not occur.
- Aim for improvements in rural civil defense capabilities.
- Try to redress the problems noted by Ogarkov in coordinating all aspects of mobilization planning.

The Soviets also will continue to pay attention to such programs as medical preparedness and economic pro-

tection, [REDACTED]
[REDACTED]

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The reorganization experiment and the mobilization problems noted by Ogarkov suggest that the organizational structure of civil defense will continue to be scrutinized closely by the General Staff in the next several years. If the reorganization did not take place, other measures probably will be implemented to compensate for those weaknesses that prompted the proposal. We do not fully understand the politics and personalities of the USSR Civil Defense Staff, but would expect additional changes when General Al-tunin eventually is replaced. [REDACTED]

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We cannot confidently forecast the factors that would determine the ultimate "victor" in a nuclear conflict, or the social, economic, or military position of the superpowers in a postattack world. Nevertheless, it is undeniable that those capabilities and assets Soviet civil defense is aimed at supporting and protecting would be foremost among the factors determining the political realities of a postnuclear era. [REDACTED]

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